

Economic Research Service
United States Department of Agriculture

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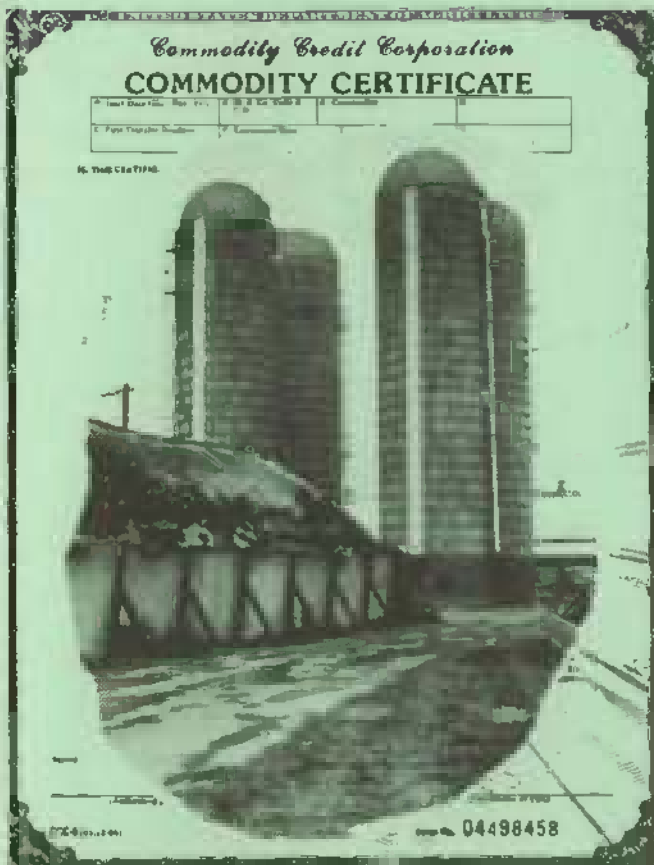
Economics Editor -- Terry Townsend

Assistant Economics Editor -- Herb Moses

Design Coordinator -- Carolyn Riley

Design Production -- Michael Hunter

For additional information about the Agricultural Outlook special reprint or magazine, contact Herb Moses, Economic Research Service, U.S. Department of Agriculture, (202)786-3313.



Generic Certificates Help Meet Goals of 1985 Farm Act

Primary to the Food Security Act of 1985 (FSA) is the goal of developing a more market oriented agricultural sector, focused on pricing products more competitively in world markets. With competitive prices, more U.S. agricultural goods will be purchased here and abroad.

The FSA allows for lower loan rates through the 1990/91 crop year. Further, the Secretary of Agriculture has discretion to implement marketing loans for wheat, feed grains, and soybeans, and is required to implement them for rice and cotton. In addition, an Export Enhancement Program (EEP) requires that CCC stocks be made available to help maintain and expand export markets.

The FSA also authorizes USDA to issue generic certificates in lieu of the cash payments due program participants and merchants of agricultural products under provisions of several programs. The certificates can be used to acquire stocks held as collateral on Government loans or owned by the CCC. These stocks otherwise would be unavailable to the market.

Farmers receive generic certificates as payment for participation in numerous Government programs: acreage reduction, paid land diversion, the Conservation Reserve, rice marketing loans, disaster, and emergency feed

programs. Merchants of grain and other commodities are issued certificates through the EEP and the Targeted Export Assistance (TEA) program. Ethanol producers have also received certificates.

Certificates have fixed dollar face values and an 8-month life beginning at the end of the month of issuance. They are generic because they can be exchanged for many program commodities held by or pledged as collateral to the CCC—wheat, rice, rye, corn, grain sorghum, barley, oats, soybeans, cotton, honey, and dairy products.

Certificates can be used in three ways:

- An individual farmer can reacquire commodities pledged as collateral to the Government under the 9-month loan, extended 9-month loan, Farmer-Owned Reserve, or Special Producer Storage Loan Program. Although certificates may also be exchanged for commodities owned by CCC, the large minimum quantity required (usually about 10 boxcars) effectively limits these exchanges to merchants; any holders not meeting the minimum are allowed one less-than-minimum transaction per month.
- Certificates can be sold or transferred to others. An active market has developed for them.
- Farmers who are original owners of certificates can return them to the CCC for cash at face value during the sixth through eighth month of the certificates' life. However, certificates issued in conjunction with 1986 programs are subject to a 4.3-percent Gramm-Rudman-Hollings (GRH) reduction. Consequently, very few certificates have been cashed in, since gains from alternative uses are usually higher.

Advantages of using certificates include ready access to most program commodities, easy sale or transfer of certificates to others, and the certificates' fixed dollar face value. Holders of certificates are protected when commodity prices decline, because the amount of commodity for which certificates can be exchanged increases.

Certificates have been used primarily by farmers to reacquire commodities pledged as collateral under the loan programs. Farmers benefit from the use of certificates in several ways:

- When the posted county price for a commodity is below its loan rate, as has been the case for corn in most locations during 1986/87, farmers can exchange certificates for the commodity under loan at the lower price.
- When certificates are exchanged for commodities under loan, any interest expenses that farmers might have incurred are forgone. If the acquired commodity is sold, storage costs and additional interest expenses that would have accrued during the remaining life of the loan are also eliminated.
- Prior to harvest, farmers can free storage capacity by exchanging certificates for old-crop stocks under loan and then selling the commodity.
- If the posted county price in a given county is below the cash price, there are opportunities for arbitrage—exchanging and selling simultaneously to take advantage of the price differences.

For merchants, the advantages of using certificates include the following:

- Certificates issued through the Export Enhancement and the Targeted Export Assistance programs allow U.S. merchants to discount prices and compete more effectively with other exporting countries.
- Like farmers, merchants have arbitrage opportunities if the CCC redemption price at a given location is below the cash price.
- Certificates are cheaper to hold than commodities, so marketing costs for storage, handling, and transportation are reduced. For example, a merchant can acquire certificates anywhere in the United States and exchange them for available commodities at most CCC storage locations. The merchant incurs the costs of acquiring the certificates (if not EEP or TEA issuances), transferring them to the point of exchange, and putting the crops into storage. But other costs in effect are paid by CCC.

Because of these advantages, generic certificates are selling at a premium over their face value. Premiums have been about 3 to 7 percent of par values since early January, down significantly from a peak of 25 to 30 percent in October, and below the 1986 average of about 12 percent.

ISSUANCES AND EXCHANGES

From April through December 1986, CCC issued \$3.85 billion in generic certificates. About \$3.61 billion went to farmers as deficiency and diversion payments, 49 percent for wheat and 34 percent for corn. The remaining \$238 million were issued through the other commodity programs.

The bulk of certificates received by farmers in 1986 were issued during three periods: \$1.35 billion in April as 1986 advance deficiency and diversion payments, \$1 billion in August and September as 1986 advance deficiency pay-

Generic Certificate Issuances

Issuance	\$ million
ACTUAL (April-December 1986)	
Deficiency & diversion payments	3,609
Other	238
Total	3,847
POTENTIAL (January-August 1987)*	
1986 final deficiency payments for corn and grain sorghum	300
1987 advance deficiency payments	2,300
1987 advance diversion payments	500
1987 Cons. Reserve Program corn bonus payments	340
Export Enhance. and Targeted Export Assistance Programs	500
Disaster Payments	400
Total	4,340

*An additional \$2.4 billion of certificates could be issued through August 1987, if 50 percent of both the 1986 final feed grain Findley payments and 1987 final feed grain paid diversion payments are made in certificates, and if the Findley payments are moved up from the current issuance date of October 1987.

Potential Generic Certificate Exchanges

Commodity and posted county price	Certificate exchanges in:					
	March-May 1987*			June-Aug. 1987*		
	65/25	70/20	75/15	65/25	70/20	75/15
<i>Million bushels</i>						
Corn						
\$1.20	1,209	1,302	1,395	1,081	1,164	1,247
\$1.50	967	1,042	1,116	864	931	997
Wheat						
\$2.20	254	203	152	227	181	136
\$2.50	222	179	134	199	160	120

*Ratios refer to the potential shares of certificates exchanged for corn and wheat, respectively. For instance, 65/25 means that 65 percent of certificates are exchanged for corn and 25 percent for wheat.

Cumulative Generic Certificate Exchanges as of March 4, 1987

Commodity	CCC inventory	Producer loans	Total
Food grains			
Wheat			
Volume (mil bu)	52.9	202.0	254.9
Value (\$ mil)	125.2	478.6	603.8
Rice			
Volume (mil cwt)	25.2	0.02	25.2
Value (\$ mil)	83.5	0.06	83.5
Feed grains			
Corn			
Volume (mil bu)	79.7	1,267.6	1,347.3
Value (\$ mil)	130.2	2,069.7	2,199.9
Grain sorghum			
Volume (mil bu)	22.5	69.1	91.7
Value (\$ mil)	40.3	123.7	164.0
Barley			
Volume (mil bu)	26.0	69.4	95.4
Value (\$ mil)	31.7	94.9	116.6
Rye, oats, and soybeans			
Value (\$ mil)	6.0	16.7	22.7
Total value (\$ mil)=	416.9	2,773.6	3,190.5

*Not included are about 4.67 million bales of cotton exchanged from 9-month loan positions for which no corresponding values are available. Other program commodities, for which few or no exchanges have been made, include honey, nonfat dry milk, butter, and cheese.

Source: Agricultural Stabilization and Conservation Service, USDA.

ments, and \$1.1 billion in December as 1986 final deficiency payments for wheat, barley, and oats. The April certificates have expired, the August-September certificates will expire by the end of May 1987, and the December certificates will be good until the end of August.

Through March 4, 1987, cumulative certificate exchanges totaled 1.35 billion bushels for corn and 255 million bushels for wheat. Virtually all the corn acquired with certificates

Generic Certificate Exchanges Rising

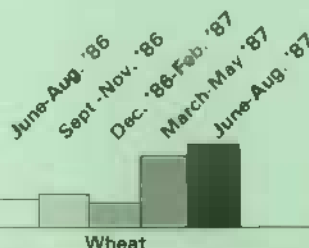
Billion bushels

1.5

1.0

0.5

0



March-August 1987 forecast.

(94 percent) has come from stocks held as collateral for price support loans, rather than from CCC inventory. This indicates that nearly all exchanges for corn have been made by farmers using certificates issued directly to them or purchased from others.

For wheat, 79 percent of total exchanges have come from loans, with a larger portion than for corn coming from the Farmer-Owned Reserve and Special Producer Storage Loan Program.

At the beginning of January, \$1.8 billion worth of generic certificates were outstanding. For the rest of the corn marketing year (January-August), CCC has authority to issue an additional \$4.3 billion, of which about \$3.5 billion were issued during January-March. Advance deficiency and diversion payments for 1987 will account for about \$2.8 billion of the \$4.3 billion.

The remaining authorized issuances include about \$300 million for 1986 final regular deficiency payments to farmers for corn and grain sorghum, and \$740 million for disaster and Conservation Reserve Program corn bonus payments. Also, \$500 million are to be issued to merchants through the EEP and the TEA program. Consequently, about \$6.1 billion of certificates could be available for exchange during January-August 1987.

It is possible that further certificate issuances will be authorized through the summer. Certificates could be issued as part of 1986 final Findley payments¹ for feed grains (if moved up from the current issue date of October 1987) and as 1987 final land diversion payments for feed grains. If 50 percent² of each of these program payments were made in certificates, an additional \$2.38 billion of certificates could be issued through August, bringing the total available to \$8.5 billion.

¹ Payments resulting from lowering the 1986 loan rate for corn from \$2.40 a bushel to \$1.92. ² Fifty percent of the final basic deficiency payments were made with certificates.

Estimates of how much wheat and corn will be exchanged with the \$6.1 billion of certificates already authorized can be made, given the following assumptions:

- Weather is normal.
- All issued certificates are exchanged rather than returned to CCC for cash.
- Each certificate issuance is exchanged at a constant rate over its 8-month life. This implies that total exchanges will rise sharply during the spring and remain higher in summer, before tapering off as the 8-month life begins to end for certificates issued from December through March.
- The share of certificates used to acquire corn is assumed to fall from 80 percent in December-February to 70 percent in March-May, reflecting a tapering off in corn loan placements. Wheat's share of exchanges could rise from 11 percent in December-February to 20 percent during March-May, as some farmers exchange certificates for old-crop wheat under loan to free storage capacity. The ratio of corn to wheat exchanges is assumed to shift further to 65/25 during June-August as farmers begin to place 1987/88-crop wheat under loan.

Individual farmers have the highest incentive to exchange certificates at harvest, selling the commodity to eliminate storage costs.

But, not all farmers can do this at the same time since short-run demand could not absorb the full increase in free supply. This, combined with farmers' cash flow needs and the 8-month certificate life, lead to the assumption of constant rate of exchange.

If all these assumptions prove valid, between 179 million bushels of wheat (at a \$2.50 posted county price) and 203 million bushels (at \$2.20) could be exchanged with certificates in the spring quarter. And for corn, exchanges this spring and summer could range from 1.91 billion bushels (at \$1.50) to 2.38 billion (at \$1.20).

Given these exchanges, plus December 1 free stocks, minus 1986-crop loan placements anticipated after December 1, free supplies for the remainder of 1986/87 could total 5.1 to 5.6 billion bushels for corn, and about 823 to 847 million bushels for wheat. With total disappearance expected to be 4.7 billion bushels for corn during December 1986-August 1987 and 795 million for wheat during December 1986-May 1987, certificate exchanges will likely push free supplies well above anticipated needs, particularly for corn, and forestall any seasonal upturn in prices.

EFFECTS ON MARKETS

Certificates free stocks that would otherwise have been unavailable to the market at current prices. The largest impact occurs when market-clearing prices are below loan rates.

What Influences Generic Certificate Prices?

Since generic certificates were first issued last spring, there has been an active market for them. Trading was particularly heavy in October, when prices for certificates rose as high as 128 percent of face value. In December, the Merchants' Exchange in St. Louis began organized certificate trading. Since July 1986, premiums have averaged 10 percent of face value, but they have ranged from 28 percent in October to 2 percent in late December. Currently, certificates are selling at 106-110 percent of their face value.

What are the economic forces affecting premiums? The price of certificates is determined by their potential redemption value. Certificates' exchange values are based on daily posted county prices (PCP's), reflecting local market conditions. For the most part, differences between the PCP and the local market price have been small. But, on those occasions when local prices in a given county exceed the PCP by a large margin, certificate holders have opportunities to profit by redeeming the commodity at the PCP and then selling it at the local price.

Arbitrage Opportunities Affect Premiums

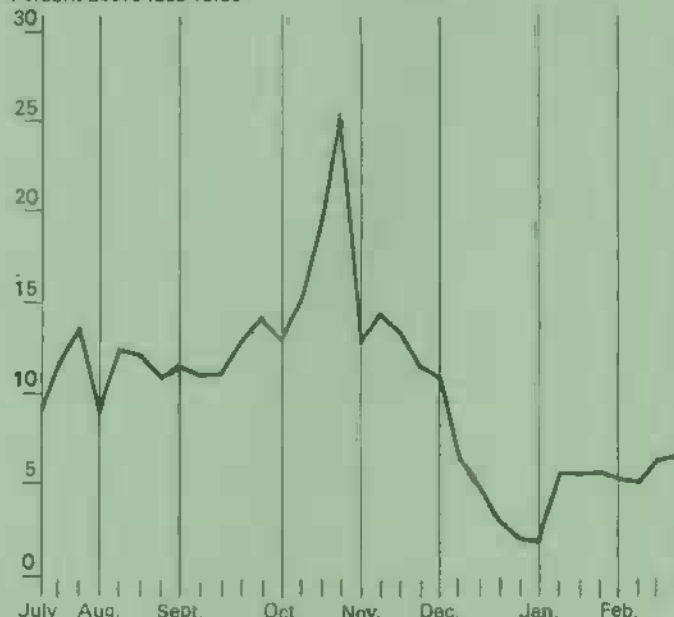
For example, if the PCP for corn were \$1.40 and the actual market price were \$1.45 per bushel, a holder of a certificate with a face value of \$1,000 could redeem it for 714 bushels of corn (\$1,000 divided by \$1.40). Selling these bushels at \$1.45 per bushel would net the holder \$35.71 over the original value of the certificate. Thus, holders would not sell their certificates unless they received at least a 3.571-percent premium over the face value of the certificate. The more the local price exceeds the PCP, the more the certificate is worth to the holder.

There has been a far greater incentive to redeem certificates for crops currently under loan. If the certificate exchange occurs at the time the crop is placed under loan ("quick PIK"), producers are able to receive the loan rate for their crop without having to pay for storage over the life of the loan. The value of the certificate above face value is determined by the relative value of the storage cost savings to the PCP.

To illustrate, assume that the local corn price is equal to the PCP of \$1.40 per bushel and it costs producers 20 cents a bushel to store corn as loan collateral for 9 months. A

Premiums Paid for Generic Certificates
Peaked Last Fall

Percent above face value



certificate valued at \$1,000 could be exchanged at the same time the loan is taken out for 714 bushels of corn. A storage-cost saving of \$143 (714 bushels times 20 cents per bushel) results.

Thus, the \$1,000 certificate is worth \$1.143 to the producer who wishes to redeem his loan, 14.3 percent over par value. If certificates are trading at premiums greater than this amount, producers could earn more by selling their certificates and keeping the crops under loan. If certificates are selling at premiums less than 14.3 percent, though, producers would gain by buying additional certificates to exchange for the remainder of their crops under loan.

While certificates are generic, returns from exchanging certificates are greatest for those commodities whose potential storage cost savings are highest relative to cash prices. Storage costs per bushel are relatively similar for wheat,

When market prices are above the loan rate, the advantages of using certificates are reduced. But the need for certificates to help keep sufficient supplies on the market also is less, since redemptions from loans are more likely. Because of this characteristic, certificates tend to be used for those commodities with the largest supply/demand imbalance.

Generic certificates also affect markets before they are exchanged, because outstanding certificates represent a pool of potential free stocks that can be acquired readily.

To illustrate how generic certificates affect markets, three assumptions were made. First, the short-term price elasticity of demand was assumed to be -0.3, meaning that a 1-percent decline in prices causes a 0.3-percent rise in total

Certificates allow access to stocks under loan, effectively circumventing the marketing barrier erected by the loan programs. A "quick-PIK" exchange means placing crops under loan and then immediately repaying the loan with certificates. Some quick-PIK's represent placements and acquisitions of commodities that otherwise would not have been placed under loan. However, many quick-PIK exchanges do release stocks that would have been placed and left under loan, especially when prices are below the loan rate minus 9 months of storage costs.

feed grains, and soybeans, but corn is typically the lowest priced per bushel. Also, the more bushels that can be acquired for a fixed value of certificates, the greater the storage savings. This tends to favor the lower priced commodities such as corn.

Thus, persons wishing to purchase certificates to acquire corn under loan are usually willing to pay the highest premiums. For example, in the fall when storage cost savings were highest for corn, about 65 percent of certificate exchanges were for corn. However, when storage cost savings are potentially higher for other crops (wheat during the summer harvest, for example), premiums usually reflect the storage cost savings possible on those crops.

As the crop year progresses, premiums probably will fall because of the decline in potential storage savings on crops under loan. This explains why premiums for certificates have declined from their peak at harvest last fall.

Availability, Expiration Time Are Also Factors

Additional factors affecting certificate premiums include the availability of certificates and the amount of time left before a certificate expires. In 1987, most certificates will be issued as advance deficiency payments in the spring and as final deficiency payments in the late fall. Issuance of certificates just prior to and at planting this spring, when the value of the premiums will be relatively small, may encourage some holders to keep certificates until next fall. Then the demand to exchange certificates for new crops being placed under loan may force premiums up.

Finally, producers who wish to use certificates to redeem crops under loan in the fall may not be willing to pay as much for certificates issued in the preceding spring, because their remaining life is short. A certificate that is about to expire offers the holder little flexibility in choosing when to redeem crops under loan. The decline in premiums in late December reflected the fact that buyers preferred to wait for the new certificates in January, rather than purchase certificates which were issued in April 1986 and set to expire on December 31.

However, certificate prices will rarely fall below the face value, since producers may exchange them at face value for cash during the sixth through the eighth month of the life of the certificates (or, as in 1986, at 95.7 percent of face value because of the Gramm-Rudman-Hollings reduction). [Joe Glauber (202) 786-1840]

demand in the short run. This elasticity is derived from a quarterly model of U.S. agriculture and a recent survey of export demand responses.³

Second, to incorporate a substitution effect between free stocks and nonfree stocks, it was assumed that free stocks rise by 50 to 80 bushels for each 100 bushels that are exchanged but not absorbed by short-run market demands, after adjusting for quick-PIK exchanges that otherwise would not have been placed under loan.

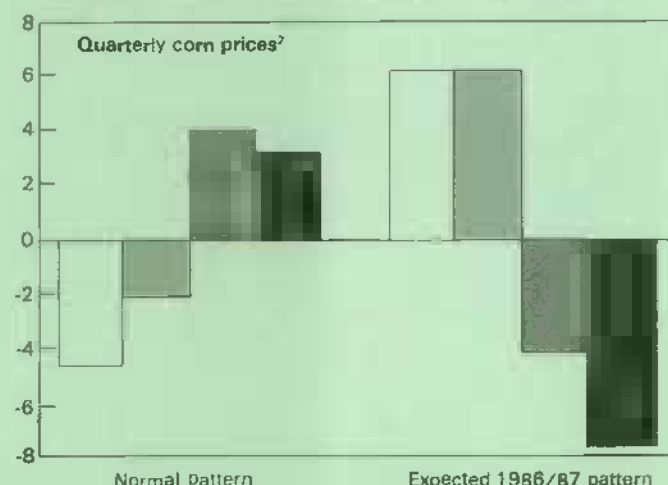
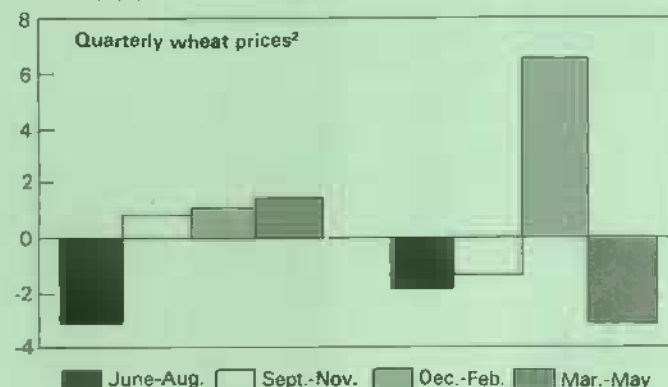
³ For more information regarding the quarterly model, see Paul C. Westcott and David B. Hull, *A Quarterly Forecasting Model for U.S. Agriculture—Subsector Models for Corn, Wheat, Soybeans, Cattle, Hogs, and Poultry*, Technical Bulletin 1700, USDA, ERS, May 1985. Export demand responses are reported in Walter H. Gardiner and Praveen M. Dixit, *Price Elasticity of Export Demand: Concepts and Estimates*, Foreign Agricultural Economic Report 228, USDA, ERS, February 1987.

Estimated Historical Effects of Generic Certificates on Farm Prices

Period	Effects on prices received by farmers for:	
	Wheat	Corn
	Cents per bushel	
June-Aug. 1986	0 to -5	-35 to -45
Sept.-Nov. 1986	-5 to -10	0 to -5
Dec. 1986-Feb. 1987	0 to -5	-10 to -20

Certificate Exchanges Will Reverse Usual Seasonal Price Patterns

Percent difference¹



¹Percent difference from crop-year average price.

²Quarterly averages based on 1980/81-1985/86 for wheat and 1980/81-1984/85 for corn.

Other than the quick-PIK exchanges for commodities that otherwise would not have been placed under loan, when generic certificates are exchanged for either loan or CCC stocks, these crops become additional free supplies. As free supplies increase, prices fall and use rises. However, the increase in use generally is not as large as the amount exchanged, so the difference is stored. Initially, free stocks rise. But, larger free stocks in turn affect nonfree stocks by affecting the value of crops eligible for loan.

Although certificate-exchanged supplies cannot be placed under loan again, a substitution between free and nonfree stocks can happen in two ways. First, eligible crops that

Comparing Uses of Certificates

Farmers can use certificates in a number of ways. Assume a farmer has a corn base of 100 acres. With the 17.5-percent set-aside requirement and 2.5-percent paid land diversion in effect for 1986, the farmer harvests 80 acres, on which the harvested yield is assumed to be 125 bushels an acre. Program benefits are based on an average farm program payment yield of 107 bushels an acre. Following harvest in October 1986, the farmer places corn under loan and uses certificates that were issued in April and August as partial advance deficiency and diversion payments.

How a farmer uses certificates depends on market conditions. For this comparison, assume:

- Certificates are sold at 10 percent above face value.
- The posted county price at the time of placement is \$1.40 a bushel, the same as the October average farm price reported by USDA.
- The effective loan rate is \$1.84 a bushel.
- The farmer was issued certificates valued at \$1,959 prior to October. This reflects the sum of the partial advance deficiency and paid diversion payments that were made in certificates.
- A storage cost of 20 cents a bushel is incurred for corn placed under loan for the full 9 months of the loan.
- In the following three scenarios, the farmer receives \$18,400 for placing 10,000 bushels of corn under loan.

Scenario 1.—The farmer does a quick-PIK exchange, immediately reacquiring 1,399 bushels of the 10,000 placed under loan. This corn is sold for \$1,959, since the farm and posted county prices are identical. Storage costs for the 8,601 bushels remaining under loan are \$1,720.

Scenario 2.—The farmer sells the certificates at a premium of 10 percent above face value, and gets \$2,154. However, storage costs for 10,000 bushels are \$2,000.

Scenario 3.—The farmer returns the certificates to CCC, taking an \$85 loss, lowering revenue to \$1,874. Again, storage costs are \$2,000.

Scenario 1 is the most profitable. The farmer makes about \$18,640 on the total crop, or \$1.86 per bushel. This is because the storage cost saving of \$280 (1,399 bushels x 20 cents) exceeds the potential increased revenue of \$196 (\$1,959 x .10) made from selling the certificates at 10 percent above face value in scenario 2. As long as the per-bushel storage cost divided by the posted county price times 100 is greater than the premium value, the farmer would gain by purchasing additional certificates to reacquire all or part of the remaining corn under loan (in this case, 8,601 bushels).

If the farmer did this, the cost would be \$13,246. The sum of the additional sales revenue of \$12,041, minus the cost of acquiring the additional certificates, results in a revenue reduction of \$1,204. But, this reduction is more than offset by the storage cost of \$1,720 that otherwise would be incurred over the 9-month life of the loan. Thus, the farmer has a net revenue increase of \$516.

Therefore, the farmer's total revenue now is \$19,154, more than in scenarios 2 and 3 by about 3 and 4.5 percent, respectively. And, per-bushel net revenue increases to \$1.92. The potential storage cost saving is greatest at the time the loan is taken out, and steadily diminishes over the life of the loan.

Another option available to the farmer is to hold certificates and speculate that market conditions at some point over the 8-month life of the certificates may give a better return than either exchanging them for a commodity or selling them at a premium at the time of placement. [Michael Hanthorn (202) 786-1840]

Certificate Options for a Corn Farmer: Three Scenarios

Item	Scenario 1:*	Scenario 2:*	Scenario 3:*
	Uses certificates to pay part or all of loan	Sells certificates and forfeits corn	Returns certificates to CCC and forfeits corn
A. Loan rate	\$1.84	\$1.84	\$1.84
B. Posted county price	\$1.40	\$1.40	\$1.40
C. Farm price	\$1.40	\$1.40	\$1.40
D. Certificate premium (percent)	10	10	NA
E. GRN reduction (percent)	NA	NA	4.3
F. Bushels placed under loan	10,000	10,000	10,000
G. Loan revenue (A x F)	\$18,400	\$18,400	\$18,400
H. Value of issued certificates	\$1,959	\$1,959	\$1,959
Advance deficiency payments	\$1,763	\$1,763	\$1,763
Advance paid diversion payment	\$195	\$195	\$195
I. Bushels exchanged with certificates (H / B)	1,399	NA	NA
J. Bushels forfeited to CCC (F - I)	8,601	10,000	10,000
K. Per-bushel storage cost	\$0.20	\$0.20	\$0.20
L. Total storage cost (J x K)	\$1,720	\$2,000	\$2,000
M. Revenue from issued certificates			
Sell corn (C x I)	\$1,959	NA	NA
Sell certificates (H x (1 + (D / 100)))	NA	\$2,154	NA
Return certificates to CCC (H x (1 - (E / 100)))	NA	NA	\$1,874
N. Total revenue (G + L + M)	\$18,638	\$18,554	\$18,274
O. Per-bushel revenue (N / F)	\$1.86	\$1.86	\$1.83
P. Cost of purchasing certificates at 10% premium ((B x J) - (1 + (D / 100)))	\$13,246	NA	NA
Q. Additional sales revenue (C x J)	\$12,041	NA	NA
R. Revenue reduction (Q - P)	(\$1,204)	NA	NA
S. Storage cost saving (J x K)	\$1,720	NA	NA
T. Net revenue increase (R + S)	\$516	NA	NA
U. Total revenue (N + T)	\$19,154	NA	NA
Per-bushel revenue (U / F)	\$1.92	NA	NA

NA = Not applicable. *All scenarios as of October 1986

might not have gone under loan now may be placed under loan. Second, because of lower prices, stocks under CCC loan that would have been redeemed and converted to free stocks may instead be left under loan, defaulted on, or placed in the Farmer-Owned Reserve, if that option is available.

Finally, farm-level prices were assumed to be responsive to ratios of free stocks to use, and equations were used that measure those relationships. With the assumptions and equations mentioned above, analysis suggests that certificates have their greatest effects on markets late in the crop years.

Last summer, for example, certificates were exchanged for 215 million bushels of corn. None were quick-PIK exchanges because loan placements for corn were closed. It is estimated that outstanding certificates could have been exchanged for an additional 488 million bushels. Use in the June-August 1986 quarter was 957 million bushels. Ending free stocks were 194 million bushels, although the extended Farmer-Owned Reserve rollover likely left free stocks at 225 to 250 million bushels.

Further, if 50 to 80 percent of the outstanding certificates are considered as a pool of free stocks, the effective level of free stocks was 460 to 630 million bushels. The resulting effective free-stocks-to-use ratio—between 0.48 and 0.66—led to average farm-level corn prices of \$2.02 a bushel.

Without certificates, free stocks would have been less than 225 to 250 million bushels, because they were raised to that level after certificate exchanges. If the assumptions made above are valid, free stocks would have been very tight without certificates, between 125 and 150 million bushels. Therefore, without certificates, the ratio of free stocks to use would have been about 0.14 to 0.17.

At the lower free-stocks-to-use ratios likely without certificates, corn prices during June-August 1986 would have been 35 to 45 cents a bushel higher, and use in the quarter would have been 40 to 50 million bushels lower. These results imply that corn prices would have been 8 to 18 cents a bushel below the \$2.55 loan rate. This in turn suggests that expectations of a large corn crop, as well as reduced loan rates already in place for wheat, barley, and oats, were holding corn prices below the 1985 loan rate even without certificates, particularly towards the end of the summer quarter.

Certificates' price effects are smallest early in the crop year because free stocks are seasonally high then anyway. Harvest-quarter price impacts for wheat last June-August are estimated to have been minimal. In the following quarter, wheat prices were probably reduced by 5 to 10 cents a bushel by certificates. In December-February, wheat prices exceeded the loan rate, eliminating some advantages of exchanging certificates, particularly for farmers. Consequently, wheat exchanges declined and price impacts were probably small.

For corn, price impacts during the harvest quarter (September-November 1986) also are estimated to have been minimal. In December-February, corn prices likely were lowered by 10 to 20 cents a bushel from what they would have been without certificates.

The higher exchange levels expected this spring and summer will likely put prices for wheat and corn lower than

they otherwise would have been. As a result, disappearance is expected to be somewhat larger than without certificates.

Generic certificates could change the seasonal movement of prices within the 1986/87 crop year, particularly for corn. Typically, prices are lowest early in the crop year, then move higher. However, certificates are likely to affect wheat and corn prices most towards the end of the current crop years.

Wheat prices have generally risen through 1986/87. If expectations of a large 1987 crop push prices down to the loan rate plus accrued interest charges, certificate exchanges for wheat could increase before the new-crop harvest to free storage space. These exchanges would exert further downward pressure on wheat prices in the spring. Certificates are also likely to hold down corn prices in the second half of 1986/87, with the lowest prices likely occurring in the summer quarter.

Implicit in these price effects is the assumption of normal weather. If adverse weather hurts normal crop development in 1987, prices could rise instead of fall this summer.

EFFECTS ON FARM INCOME

Despite lower commodity prices, certificates are not reducing incomes of participants who fully use the loan program.

Income from 1986 Crops With and Without Certificates

	Income with the generic certificate program	Income with no certificate program
Corn example for a program participant		
Base acres	100	100
Harvested acres	80	80
Effective loan rate	\$1.84	\$1.84
Loan payment	\$18,400	\$18,400
Storage costs ²	\$2,000	\$2,000
Return	\$16,400	\$16,400
Program benefits³		
Paid land diversion	\$195	\$187
Deficiency payments		
Basic payments ⁵	\$5,257	\$5,161
Findlay payments ⁵	\$4,020	\$3,932
Premium received on generic certificates ⁶	\$451	0
Income	\$26,323	\$25,680

Corn example for a nonparticipant		
Harvested acres	100	100
National average price ⁷	\$1.40	\$1.70
Market return ⁸	\$17,500	\$21,250
Storage costs	\$1,625	\$1,625
Income	\$15,875	\$19,625

- ¹ Assumes a yield of 125 bushels an acre.
² Assumes 9 months at 20 cents a bushel.
³ Assumes a program yield of 107 bushels per acre. All cash benefits are subject to GRH reductions.
⁴ About 58 percent in cash and 42 percent in certificates.
⁵ Assumes 50 percent cash and 50 percent certificates.
⁶ A 10-percent premium is assumed. The season-average farm price for corn during 1986/87 currently is estimated to be \$1.35 to \$1.65 per bushel. Generic certificates are reducing the season average price an estimated 25 to 35 cents per bushel.
⁷ Assumes an average of 6 months' storage, at 13 cents a bushel.

Certificate Exchanges Vary With Loan Activity

Corn and wheat accounted for about 80 percent of the total value of exchanges during June-August 1986. In September-November 1986 and December 1986-February 1987, they accounted for 90 percent. The pattern of past exchanges may reflect activity this spring and summer (see Potential Generic Certificate Exchanges table).

The shares exchanged for corn and wheat separately have changed significantly over these crop-year quarters, with changes in loan placements and redemptions. In June-August 1986, 56 percent of certificates were exchanged for corn and 25 percent for wheat. During September-November, wheat's share remained at 25 percent, but corn's rose to 64 percent. And in December-February, corn rose to 80 percent, while wheat dropped to 11.

Corresponding to these shares, weekly exchanges during July-October 1986 averaged 21 million bushels for corn and 5.7 million for wheat. During November, exchanges rose, averaging 30 million bushels for corn and 7 million for wheat. In December 1986-February 1987, weekly exchanges for corn and wheat averaged 58 million and 5.4 million bushels, respectively, reflecting increased use of certificates by corn farmers. Reported corn exchanges hit a peak of 133 million bushels in the week ending February 11. Larger exchanges for corn since early September have reflected declining market prices, the beginning of loan placements, and the record-high amount of corn placed under loan.

Corn exchanges rose in the winter quarter as average weekly placements of corn under loan moved to 215 million bushels, up from 142 million in September-November. Since many farmers waited until calendar 1987 to place corn under loan, the share of all certificates exchanged for corn continued to rise, reaching a weekly peak of 87 percent in the middle of February. In contrast, wheat exchanges declined as placements of wheat under loan subsided from a

weekly average of about 22 million bushels in September-November to 4.3 million in December-February.

The share of wheat exchanged from loans has risen steadily from the 57 percent that prevailed during most of June-August 1986. Early on, a greater share of wheat exchanges were coming out of CCC stocks, and they were made primarily by grain merchants who were issued certificates through the EEP and the TEA program or bought them from other holders.

In September-November, wheat exchanges from CCC stocks declined, while exchanges from loans rose to 95 percent, as placements of the 1986 crop increased. In December-February, loan activity tapered off and, for some farmers, advantages of exchanging certificates for wheat fell because wheat prices were above the loan rate in most locations. As a result, the share of wheat exchanges from loans fell to 88 percent.

With posted county prices for corn well below the loan rate, virtually all corn redeemed from 9-month loans was freed through certificate exchanges—an average of 96 percent in September-November and 98 percent in December-February. And, for 1986 corn, the share of redemptions relative to placements rose from a weekly average of 7.2 percent in September-November to 38 in December-February.

For wheat, however, posted county prices have remained at or above the loan rate during most of 1986/87. Consequently, a smaller share of 9-month loan redemptions for 1986-crop wheat was made through certificate exchanges—77 percent in September-November, then 46 percent in December-February. As wheat placements subsided and normal redemptions from loan rose in December-February, redemptions of 1986-crop wheat relative to loan placements rose sharply, from an average 30 percent in September-November to 224 in December-February.

even in the short run. To illustrate, income support for corn farmers under the 1986/87 program is comprised of three components—the loan rate, Findley payment, and basic deficiency payments.

Basic deficiency payments to corn farmers for the 1986/87 program are based on a target price of \$3.03 a bushel and the basic loan rate of \$2.40 a bushel. Findley payments, which are additional deficiency payments, are based on a further reduction in the loan rate to \$1.92 a bushel. GRH reductions make the effective 1986-crop loan rate for corn \$1.84 a bushel.

The \$1.84 loan rate is not affected by certificates. These CCC loans are made in cash. Findley payments are the 48-cent difference between the reduced loan rate of \$1.92 a bushel and the basic rate of \$2.40. Some of these payments have already been made. The remainder are currently scheduled for October 1987 and could be partly or wholly paid in certificates.

Basic deficiency payments are the 63-cent difference between the target price and the basic loan rate. About 58 percent of 1986/87 corn deficiency payments are being paid in cash, about 42 percent in certificates. Only the cash portions of the basic and the Findley deficiency payments are subject to the GRH reduction; no GRH reduction is made on the portion paid in certificates. Further, the value of certificates is protected against changes in commodity prices because if prices fall, the certificates can be exchanged for additional amounts of the commodities.

Farmers save storage costs by acquiring stocks under loan and then selling them. Storage costs that would have accrued during the remaining life of the loan are eliminated. In addition, all interest expenses are forgone.

Moreover, incomes may be enhanced by taking advantage of temporary differences between market prices and posted county prices. Holders can also sell their certificates at a premium.

In contrast, if there had been no generic certificates, the loan rate portion of income support would have been the

same, but a participating corn farmer would have received the full deficiency and Findley payments in cash, subject to the 1986 GRH reduction. And, no additional income gains could have been achieved through alternative uses of certificates.

Farmers who have chosen to not participate in the commodity programs, and consequently are not provided any income support under the FSA, are adversely affected when prices fall. Many nonparticipants, however, raise livestock in addition to their crop operations. On these farms, grain is marketed indirectly through livestock feeding, thereby insulating nonparticipants from short-term adverse effects of lower prices. Further, longer run improvements in domestic and export demand from the more competitively priced commodities may partly offset any short-run adverse effects on nonparticipants.

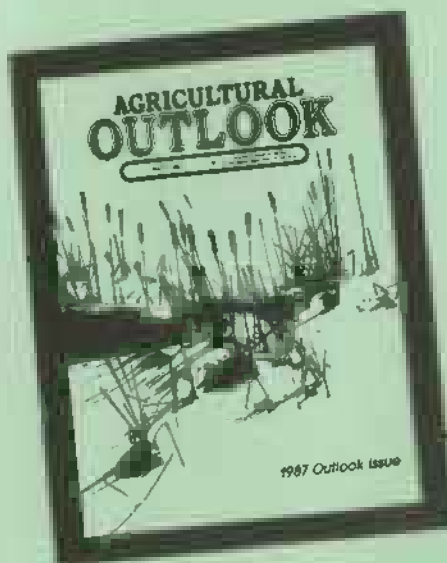
LONG-RUN DEMAND

More competitive market prices are contributing to a long-run improvement in domestic demand. For example, lower feed grain prices reduce the cost of producing meat, thereby encouraging expansion in the livestock industry.

Biological lags constrain the livestock sector in the short run. However, broiler production increases have accelerated recently, with output expected to be up 6 percent in 1987, compared with 5 percent in 1986. Commercial pork production is expected to be up 5 percent in the second half of 1987, the first major gain since 1983. Further, cattle inventories are projected to stabilize over the next few years, ending a decline that began in 1982.

Lower market prices also are boosting U.S. export competitiveness in two ways. First, competing producers are being sent a signal that the United States will no longer implicitly support global prices through high loan rates. To the extent that U.S. prices are below costs of production in competing producing countries, foreign-produced supplies may be diminished.

Second, lower market prices for our agricultural products may allow the United States to recapture export market shares of a potentially growing trade market, thereby increasing export demand. [Paul Westcott and Michael Hawthorn (202) 786-1840]



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